Multiple sequence alignment (positions 1–40)

```
                            1         10        20        30        40
QUERY                       I T E S T M I G H N P K T P G G A G L G T G I T I T P Q E L L T R P A D A P Y I
UniRef90_UPI0003F6B2C8      I T E S T M I G H N P R T P G G L G L G V G Y T V D I L D L I N K P M T D S Y I
UniRef90_V5RQV1             V T E S T M I G H N P D T P G G R G T G A G Y T V P L L L E L A N K D K S K P Y I
UniRef90_C4LFD2               S T M I G H N P K T P G G L G L G V G I T I T F D E L L S R S N S E S Y I
UniRef90_D3UM52               S T M I G H N P K T P G G L G M G S G I T V L L D E L A S K T K E G S Y I
UniRef90_B0K3B7            I T E S T M I G H N P T T P G G V G L G I G I T I P I F E L E K C K H G E E V I
UniRef90_R5BN42               S T M I G H N P K T P G G L G I G V G Y T A H I L Q L L D K P M S D D Y I
UniRef90_UPI00030213E5        S T M I G H N P S T P G G L G L G I G K T I D I V D L D H A S S E E S Y I
UniRef90_UPI0002492D6D     I T E S T M I G H N P K T P G G V G V G I G Y T I D I R D L A D K G G G R D Y V
UniRef90_G7V6B4            V T E S T M I G H N P S T P G G V G V G K G R T V H I D D L L N V E K N D P V I
UniRef90_G8PEJ6            I T E S T M I G H N P N T P G G V G I G S G Y T V N L L N L K E K D L S R N Y I
UniRef90_C6PQK2               S T M I G H N P D T P G G L G L G T G K T V F L D E L E Y L H A N E E V I
UniRef90_I9M7D6               S T M I G H N P S T P G G V G L G V G Q T V S F S Q L E S L A S G E K V I
UniRef90_E6MIY1               S T M I G H N P S T P G G L G T G V G D T V N I R D L K S K N P G D A V I
UniRef90_UPI00037AD763        S T M I G H N P S T P G G I G L G V G V T I L M E E L P R T N A G E S V L
UniRef90_L0ILR3               S T M I G H N P T T P G G I G L G I G T T V Y I D E L Q N L H A G D N V I
UniRef90_B2TLK5               S T M I G H N P S T P G G V G L G I G K T I Y I E E L D N L E V D K Q F I
UniRef90_J3ES93               S T M I G H N P R T P G G L G L G I G Y T V N I V D L I K Q D K E R S Y I
UniRef90_D3L3P5               S T M I G H N P S T P G G V G I G V G I S I Y D L E K T K P E D P V Y I
UniRef90_H1PQC3               S T M I G H N P T T P G G A G I G V G I S V L I E N I D E K L S G E D V I
UniRef90_D1AFL7               S T M I G H N P K T P G G I G L S S G I T V M F E D I L K Q N A N E D L V
UniRef90_Q0TRW8               S T M I G H N P S T P G G L G V G I G K T I R L E T L E T K E E D N A F I
UniRef90_D2Z8G8            I T E S T M I G H N P S T P G G L G I G V G V T V A Y D D L R N Q A R D E S V V
UniRef90_M5DX03            I T E S T M I G H D P W T P G G I G L G V G Y T I K I N N I D S C T A G D D V I
UniRef90_T0C8S1            I T E S S M I G H N P D T P G G A G L G V G L T V P I D E L F D W T S D Q D V I
UniRef90_E3H9G3               S T M I G H N P S T P G G I G L G I G E T I L F Q E L G N F E N D K D Y I
UniRef90_UPI0002627E5D     V T E S T M I G H N P D T P G G A G L G V G E T V A F G S L P D C A P G S K V I
UniRef90_D5XBU6            I T E S T M I G H N P A T P G G A G L G I G T T V R L S D L E G C P P G K Q V I
UniRef90_H3LI37               S T M I G H N P Q T P G G E G L G V G T T I R L E N L D A L T P E E G W I
UniRef90_F7NH21               S T M I G H N P A T P G G I G L G V G V T V P F D R L A G V K A G E R I I
UniRef90_UPI0002EAEEF0        S T M I G H N P R T P G G L G L G I G Q T I L L T D L A N E T D K A Q Y I
UniRef90_U2QEV7            I T E S T M I G H N P S T P G G L G V A V G T T I R I E D L G L A R A G E Q Y I
UniRef90_UPI00047BCE6C        S T M I G H N P S T P G G I G L G V G Y T I N I K N I K N M T E K K P L I
UniRef90_W2BRJ5               S T M I G H N P S T P G G L G I G V G T T I S I D D L T S A N Q G P Y I
UniRef90_R6G9W5            I T E S T V I G H N P S T P G G T G I G V G T S V L V T E L S K I R E A K D V I
UniRef90_U7VEM7               S T M I G H N P D T P G G C G I G L T I N L D L K E L K L E D E E Y I
UniRef90_Q6YNM1            I T E S T M I G H N P G T P G G S V L D Q G T Q W N C F S F F M K R T N R S Y F
UniRef90_I3VRW4            I T G S T M I G H N P S T P G G V G L G V G E I I H I N D L A D A T K G K N Y I
UniRef90_S0J4Q5               S T M I G H N P S T P G G M G V G V G E T I L L T Q L A S A P G G K D Y I
UniRef90_I6XQD8               S T M I G H N P S T P G G L G I G V G T T I A L D E L P D A P A G Q P Y I
UniRef90_E3CVA2               S T M I G H N P S T P G G L G I G R G R T V P F E A L P S L R P G D P V I
UniRef90_G0EI74            V T E S T M I G H N P K T P G G S G I G I G K S V L Y D D I S N I N K G E D V I
UniRef90_B8FDN6            I T E S A M I G H N P D T P G G L G L G Q G V T V D I R D L T Q T A P G A P C I
UniRef90_J3EVS0            I T E S T M I G H D P S T P G G V G L G T G T S V E I T D M A D H D P A D P V I
UniRef90_W9BLL4               S T M I G H D P R T P G G R G L G V G I V D F A A L A E A T P G T P L I
UniRef90_D8JB91           I T E S T M I G H D P R T P G G D G L G T G T I I D I T D R G D V P D E T A V I
UniRef90_L7EN86               S T M I G H N P S T P G G I G T G V G I T V D I E E L E S I K N N N T V I
UniRef90_F9DQU4           I T E S S M I G H N P D T P G G E G I G I G E T I L I E Q L L H A E E N T P Y I
UniRef90_UPI00035DF8DB    I T E S T M I G H N P R T P G G D G L G V G V T V A L A D L T G H D P A E P V V
UniRef90_E3HDB0               S T M I G H N P S T P G G I G I G V G I S L P I E D I K K D H V G V E V I
UniRef90_A0A024LYM0           S T M I G H D P R T P G G R G L G V G V T V A F H A L S Q V R T G A E V I
UniRef90_UPI00036C2415    I T E S T M I G H N P E T P G G V G T G T G Y T V T L D E L A K K D R K R K Y I
UniRef90_R6G8Y1              S T M I G H N P N T P G G V G I G V G S Q R I D R L D T V K D G G D Y I
UniRef90_S6F9H4           I T D S A M I G H N P E T P G G Y G L A L G E T I N L E Y L N E I D I N K D Y I
UniRef90_A5ZM62             S S M I G H N P S T P A G A G E A V G R L L F I E N M D R G M Q N T P Y I
UniRef90_UPI0003B50165        S T M I G H D P S T P G G E G L G V G R T V G Y D A L G E V P E G D A A I
UniRef90_R5TMH6           I T D S S M I G H N P S T P A G A G Q A V G K T L D F E R I R E G V P G T P Y I
UniRef90_R5RU48            S S M I G H N P S T P A G E G Q A V G E L I R L E H L Y Q A E R E K P Y L
UniRef90_R2QSB2             S T M I G H N P K T P G G L G L G V G T T L R F N E F E K A G K K E P Y I
UniRef90_UPI00047BC154    I T D S S V I G H N P S T P G G V G L G V G V T I D V R N L T S A G K N K K Y I
UniRef90_L6X0J1              S T M I G H N P K T P G G A G L G V G I T I T P E E L L T R P A D S S Y I
UniRef90_UPI0001FFF2FA    I T E S T M I G H N P E T P G G E G I G V G V T V P L D G L G G T A A G S P V V
UniRef90_S3X9M6              S T M I G H N P S T P G G V G T G V G I T I R I E D L G A A S A G D Y V
UniRef90_D2S4X8             S T M I G H N P T T P G G E G L G V G T T R S I G E L G E Q Q P G E P V V
UniRef90_K9I8B2
UniRef90_C0E8B5              S A M I G H N P D T P G G V G L A T G V T A P V D Q L T D T T Q P V I
UniRef90_A0A023V4B1         S T M I G H N P Q T P G G V G V G M G T T I S V D K L A S L S E D R G W I
UniRef90_K6L997             S T M I G H N P K T P G G V G L G V G I T I T P Q E L L T R P A E A P Y I
UniRef90_I4BQM0                       D A S T P A G A G Y G V G S H V R L A D L T A S A A G G P V V
UniRef90_UPI000463576D                D A S T P A G T G Y G V G Q H V R L F D L G V H P V D G P V V
UniRef90_A1UN21                       D A S T P A G A G H G V G T H V P L A D L S G P V H P G P V I
UniRef90_W9ATZ9                       D A S T P A G T G Y G V G R H V P V H A L T G P A A P H P V V
UniRef90_Z5XJH4                         A S T P A G A G S A V G V H V P L A D V T G P A V A G S A I
UniRef90_A0R5U9                       D A S T P A G S G Y A V G R H V P L A A L K H D D R H D A V I
UniRef90_A0A018SEB6       S T M I G H N P K T P G G V G L G V G I T I T P E E L L T R P A D S S Y I
UniRef90_X5LQY4                            T T A G D A V G V G Q P V P V E C L G G V E P G R P V I
UniRef90_V5XIJ9                               V G V P V P V D R L A S V D S G E S V I
UniRef90_K0UPF4                               L D A G P P D R P V I
UniRef90_A4T657                       D A S T P A G A G H A V G L H V P L T A L Q H G V S G P V V
UniRef90_X5KSI9                       D A S T P A G T G Y A V G R H T P L T A L A G P A Q P G P V V
UniRef90_L8FMS0                          T T A G D G A G A G T P V P V E Q L A A T D P D R P V V
UniRef90_I7G3C9                               V G T P V P V E Q L A V A G P D R P V V
UniRef90_A0A010YIW5                              E V G G A P V V
UniRef90_Q6YNM7           I T E S T M I G H N P G T P G G I G T G S V T Q L L L Q Q T D K Q R P Y I
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lupas_21
lupas_14
lupas_28
jnet
conf 9 9 8 7 6 2 2 2 5 6 7 7 7 7 7 6 3 2 5 8 8 9 8 9 8 8 7 5 3 6 5 5 5 6 6 7 7 7 7 7 3 5 7

Alignment position markers: 50, 60, 70, 80

Label	Sequence (positions ~44–80)
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UniRef90_UPI0003F6B2C8	V V A S K Q V D F D A V A Q L I N A Y V S R G Y K I V G A V L Q A D D G V L V N
UniRef90_V5RQV1	V V V P K Q V D F A D A A K L I N A Y V A A G Y K I T A A I L Q N D D G V L L D
UniRef90_C4LFD2	V V A P A Q L D F A D I A G M I N A A V K A G Y R I E A A I L Q R D D G V L V N
UniRef90_D3UM52	V I I P K T V D F E D A A L M M N K Y S E N G Y Q I T A A I L Q A D D G V L V H
UniRef90_B0K3B7	V V I P K N V D Y E D A A K I I N N A F S K G V E V K G A I A Q K D D G V L I A
UniRef90_R5BN42	V V V P K E I D F Q L V A E L I N A Y V T K G Y R I K G A I L Q A D D G V L V A
UniRef90_UPI00030213E5	V L I G K K I D F E D A A R M I N H S I D R G I N I N G A I A Q K D D G V L I N
UniRef90_UPI0002492D6D	V I V P K E L D F A D V A K L I N A Y W K H G Y K I T A A I L Q S D D G V L V D
UniRef90_G7V6B4	V V I P S N W D Y E A A S E A I N R A I E K G I S V E G A I C Q G D D G V L I A
UniRef90_G8PEJ6	V V V P K G V D F A D A A K L I N V Y R I S G Y K I T S A I L Q N D D G V L L N
UniRef90_C6PQK2	C I I P K S V D F E T A A K K L N E A F K R N V E I T G A V V Q A D D G V I I S
UniRef90_I9M7D6	C V I P E N I D F E D A A R I L N Q A L A R G I D L Q G V I V R Q D D A V L I A
UniRef90_E6MIY1	V V V P R E V D F E T S S A M I N E A A A K G I H V N G A I V Q R D D G V L I N
UniRef90_UPI00037AD763	C I I P R G V D F E D A A K T L N A A L A R G V D V Q G A I V C Q D D A V L I A
UniRef90_L0ILR3	C I V P P N M D F E E A A N R I N S A L D N N V N V N G A I V K K D D A V L I C
UniRef90_B2TLK5	P L I L S R V N F L E A A A R I N A A T Q R G I N I T S A V V Q R D D G V L I N
UniRef90_J3ES93	V L I P R S V D F A D A A K L I N M Y I G C G Y K V T A A V M Q G D D G V L V D
UniRef90_D3L3P5	V V I P E S V S F E E A A N M I N L A L S R G I A V N G V I C Q S D D G V L I A
UniRef90_H1PQC3	A L I S K D I D F Q E A A R K I N E M T A K V N I R G A V A Q K D D A V L I N
UniRef90_D1AFL7	V I V T K E N D F E E V A K T L N R A A K N G I K I C A A I M Q K D D A V L V S
UniRef90_Q0TRW8	P L V L G N I S F L E A V F R I N Q A T R R G I N I T A A I V Q K D D G V L I N
UniRef90_D2Z8G8	V V I P G S I D F E A A A G A V N E A I D R G V N V K A L I C Q N D D G V L I S
UniRef90_M5DX03	L I I P G D V D F A D A A E I I N R S I E R G V N I N G A V A Q K D D A V L I V
UniRef90_T0C8S1	V V V P G Q F D Y E W V A S R I N A A I E Q G I R V N G A I V Q K D D G V L V Y
UniRef90_E3H9G3	V I V E K S F S F L E V A H R I N E A F K N G C K I K G A I I Q K D D G V L I N
UniRef90_UPI0002627E5D	C V V G S G V D F E D A A A G I N K A V A R G V E V T G A I H A D D A T L I A
UniRef90_D5XBU6	V V V A D L D V D F R T V A E Q L N R A V A V G V D V Q G A I L K N D D G V L V A
UniRef90_H3LI37	P L V D H Q V D F M D A A W Q L N E A L T R G I N V V A V I L Q Q D D G V L I N
UniRef90_F7NH21	C I I P G G I D F E D A A R E L N A A A S R G V D L Q G A V A R Q D D A V L I V
UniRef90_UPI0002EAEEF0	V L I P K E V D F G D A A K L L N L Y H D A G F K V T G A I L Q G D D G V L V D
UniRef90_U2QEV7	V L A D R T H D F R D V A R I N E H A E R V T V T G A I L Q L D D G V L V D
UniRef90_UPI00047BCE6C	V I V P K E V D F L Q A S S I I N E A I E S G M D I Q G A I V Q S D D G V L I N
UniRef90_W2BRJ5	V V I D R S H D F A D A A Q T I N N A S A K V T G A I C E L D D G V L V D
UniRef90_R6G9W5	V I V P N K V R F A Q A A A L M N Q A K E N I H I T G A I V Q A D D G V L L N
UniRef90_U7VEM7	V I A N K D K N F L E I A K I L N S E I N R G V K I K G A I L Q N D D G V L V N
UniRef90_Q6YNM1	V L V S K N I D F A D A A R L I D A Y Q D A G Y K I T A A I L Q N D D G V L I D
UniRef90_I3VRW4	V V I P K E I G Y E E A S I M I N K S F E N D I D V K A A I V Q S D E A V L I N
UniRef90_S0J4Q5	V V V P A S V D F E D A A R L I N E G S V G T R Q V T A A I V Q R D D G V L I H
UniRef90_I6XQD8	V V A P R T I P Y D V A A R L N A V A E R L E V T G A I L Q A D D G V L V H
UniRef90_E3CVA2	P I P R S V D F T R A A G G I A E A L G R G V E V A G A I C Q A D D G V L I V
UniRef90_G0EI74	I V V P N S I D F K D V A N S V N N A V S K G I N V N G L I L Q K D D G V L I Q
UniRef90_B8FDN6	V V I D G D V D F T Q A A E M I N A A A A K G V K I T G A I V K K D D G V L I Y
UniRef90_J3EVS0	F L V P D S V D F A D A A R I N E W H E N G Y D V K G A I V Q R D D A V L I H
UniRef90_W9BLL4	V V V P A D V D F D V V A A T I N A A A H R G V E V S G A I L R N D D A V L V A
UniRef90_D8JB91	V V V P E T V D F A D A A T I N E W I E D G I D V Q G A I V Q S D D G V L I N
UniRef90_L7EN86	V I I L K K V D F E Y A A K T I N K Y L K K G V N I V G A I V Q R D D G V L I N
UniRef90_F9DQU4	A V V S K K F D Y E W V A Y Q F N K F E K Q G I Q I K G V I V Q K D D G V L I H
UniRef90_UPI00035DF8DB	C V V G A G V D F D D A A A G I N S A A A A G I R V T G V I C A D D A N L I A
UniRef90_E3HDB0	A L I N K D V D F Q V A A R T I N N L V K M G V N I T G A I V Q N D D A V L I N
UniRef90_A0A024LYM0	V V V P K A V D F D D A A R T I N A A G A R G I D V R A V I L G N D D A V L V A
UniRef90_UPI00036C2415	V L V R K E V D F A D V A K Q I N Q A C Q R G L K I S A A I M Q N D D G V L V D
UniRef90_R6G8Y1	V V I P A E V S F E A A A A L I N R Y N K I F N I T G A I V Q R D D G V L I N
UniRef90_S6F9H4	V V V S N K F S Y E V A I K I N N L F E N E V K I K G A I L E E D E G V L L N
UniRef90_A5ZM62	L V A S S Q F S Y E E V A A K L N Q Y E E R L D I R G L I L Q A D E A V L V E
UniRef90_UPI0003B50165	V V I P R E V D F E D A A A A I E A A R A R G V E V R G A V V Q R D D A R L I A
UniRef90_R5TMH6	V F A K A A A S Y E E I A E V I N R E R K R L T I T G V I L Q A D E A V L V E
UniRef90_R5RU48	V I V P E T F S Y E A A D K L N Q Y I P E K N I R G L I L Q A D E A V L V E
UniRef90_R2QSB2	L I I D K S F D F D D V A K K I N Q L V A N G Y L I T A A I M Q S D D A V L V N
UniRef90_UPI00047BC154	A V I P G D V S Y E D A A K A L N D A F D R G I V V S A A I V Q K D E A V L I C
UniRef90_L6X0J1	L V V S S A F D F A D I A N V I N A S M R A G Y Q I T G V I L Q R D D G V L V S
UniRef90_UPI0001FFF2FA	V V V A A G A D F D D V A E R L N A S D R G V V V A A I L H G D D A V L V V
UniRef90_S3X9M6	V V V S R S H D F A E V A A T I N A A R V N V T A A V M E L N D G V L V V
UniRef90_D2S4X8	C V V P H G W D F D D V A A T L N A A V A A G V D V V A A I L A G D D A V L I T
UniRef90_K9I8B2	V V P K E V D F A D A A R L I N L Y S K A G Y Q I T A A I L Q N D D G V L I D
UniRef90_C0E8B5	P V V N G E Y P Y Y Q A A K L M Q E A I D R G V N V V A A I V Q K D D G V L I A
UniRef90_A0A023V4B1	P L V G E E I D F L E A V W L I N E A L D R G I N V V A A I L K K D D G V L I N
UniRef90_K6L997	L V V S S A F D F A D I A N V I N A S L R A G Y Q I T G V I L Q R D D G V L V S
UniRef90_I4BQM0	V S V D D A T D F E V A A R E I S A A V D R G W H I V G V L A A Q D D A V L I R
UniRef90_UPI000463576D	V S V D D T I D F E V A A R E I T S A I E R G W Q V V G V V A A Q D D A V L I R
UniRef90_A1UN21	V S V S A A T D F E V A A Q A I G D G V A S G W K I A G V L A A Q D D A V L I R
UniRef90_W9ATZ9	V S V G P D I D Y E D A A Q C I S A A V A A G W S I A G V L A A E D D A V L I A
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jnet
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sol5                     B               B B    B    B    B    B    B                       B B
sol0                                     B                                                     B
jhmm
jpssm
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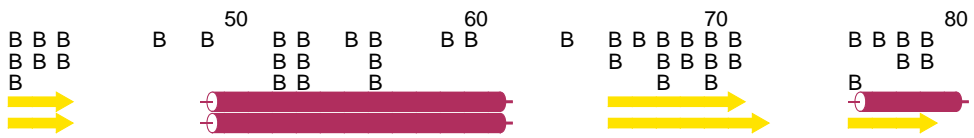
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sol5	B	B	B					B	B			B			B		B		B	B	B			B	B	
sol0	B							B	B			B						B		B		B				

sol25
sol5
sol0
jhmm
jpssm

90   100   110   120

B   B   B B B B B   B   B B   B   B B B B B B B B   B   B   B B
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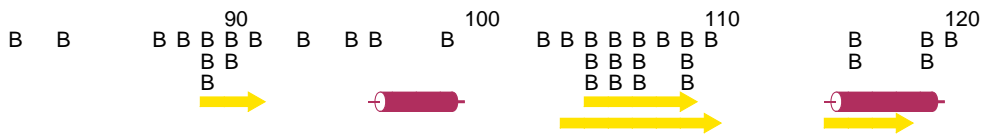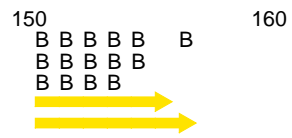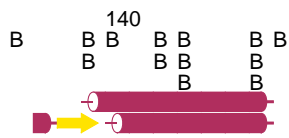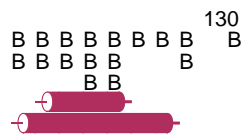   B   B B B   B B

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sol25	B	B	B	B	B	B	B		B		B	B		B	B		B	B		B	B	B	B	B
sol5	B	B	B	B	B		B				B			B	B		B			B	B	B	B	
sol0					B	B									B		B			B	B	B	B	

sol25
sol5
sol0
jhmm
jpssm